

What is claimed is:

- 1 1. An input device for selecting a channel in a digital
2 television, comprising:
3 a keypad including a plurality of number keys for
4 inputting respective numbers; and
5 a delimiter key for inputting a delimiter,
6 where a channel is indicated by a major and minor
7 channel number sequence which includes a major channel number
8 input through one or more number keys of the keypad, a
9 delimiter input through the delimiter key, and a minor
10 channel number input through one or more number keys of the
11 keypad.
- 1 2. The input device of claim 1, where the delimiter is a
2 dot.
- 1 3. The input device of claim 1, where the keypad includes
2 at least one key which can be used to input a letter.
- 1 4. The input device of claim 1, further comprising an
2 enter key.

1 5. The input device of claim 1, further comprising a
2 channel command key for selecting a sequentially adjacent
3 channel.

1 6. The input device of claim 1, further comprising a
2 second keypad, where the first keypad is for inputting a
3 major channel number and the second keypad is for inputting
4 a minor channel number.

1 7. A digital television, comprising:
2 a display;
3 a tuner including a connection for an externally
4 supplied broadcast signal, where the tuner provides a signal
5 carried on a physical channel selected from the broadcast
6 signal;
7 a channel control circuit which derives major and minor
8 channel number sequences from received control signals, where
9 a major and minor channel number sequence indicates a
10 specific channel carried in the broadcast signal;
11 a channel processing circuit connected to the channel
12 control circuit, the display, and the tuner, where the
13 channel processing circuit causes the tuner to select a
14 physical channel corresponding to the major and minor channel
15 number sequence supplied by the channel control circuit and
16 provide a digital signal carried thereon, decodes a channel
17 indicated by the major and minor channel number sequence in
18 the digital signal, and supplies the decoded channel to the
19 display.

1 8. The digital television of claim 7, where the received
2 control signals include a major channel number, a delimiter,
3 and a minor channel number.

1 9. The digital television of claim 7, where the received
2 control signals include a major channel number and a menu
3 selection which indicates a minor channel number.

1 10. The digital television of claim 7, where the channel
2 processing circuit comprises a channel look up table which
3 indicates correspondences between major and minor channel
4 number sequences and physical channels.

1 11. The digital television of claim 10, where the channel
2 look up table further indicates correspondences between major
3 and minor channel number sequences and channels encoded in
4 digital signals carried in the broadcast signal.

1 12. The digital television of claim 10, further comprising
2 an integrated keypad for inputting the received control
3 signals.

1 13. The digital television of claim 10, further comprising
2 an input device which includes a keypad for inputting the
3 received control signals.

1 14. A method for selecting a channel in a digital
2 television, comprising:

3 inputting a major channel number which indicates a
4 first physical channel carried on a broadcast signal;

5 inputting a delimiter; and

6 inputting a minor channel number which indicates a
7 channel encoded in a digital signal carried on a second
8 physical channel, where the second physical channel is
9 indicated by the combination of the major channel number and
10 the minor channel number, and where the delimiter separates
11 the major channel number from the minor channel number.

1 15. The method of claim 7, where the second physical
2 channel is the same as the first physical channel.

1 16. The method of claim 7, further comprising inputting a
2 completion command to complete selecting a channel.

1 17. The method of claim 7, further comprising transmitting
2 the major channel number, the delimiter, and the minor
3 channel number to a digital television.

1 18. The method of claim 17, where the major channel number,
2 the delimiter, and the minor channel number are transmitted
3 to the digital television together.

1 19. The method of claim 7, where the digital signal is a
2 transport stream.

1 20. The method of claim 19, where a correspondence between
2 the minor channel number and the channel is provided by a
3 virtual channel table carried in the transport stream.

1 21. A method for selecting a channel in a digital
2 television, comprising:

3 receiving a physical channel number sequence which
4 indicates a physical channel which has a corresponding major
5 channel number;

6 identifying the physical channel as analog or digital;

7 when the physical channel is digital, determining a
8 major and minor channel number sequence by

9 displaying a menu listing one or more channels
10 associated with the physical channel,

11 receiving a selection from the menu, where the
12 selection corresponds to a channel which has a
13 corresponding minor channel number, and

14 generating a major and minor channel number
15 sequence from the major channel number corresponding to
16 the physical channel and the minor channel number
17 corresponding to the selection.

1 22. The method of claim 21, further comprising tuning to
2 the physical channel corresponding to the major and minor
3 channel number sequence.

1 23. The method of claim 21, further comprising, when the
2 physical channel is analog, causing a tuner to tune to the
3 physical channel to supply a signal carried on the physical
4 channel to a display.

1 24. A method for selecting a channel in a digital
2 television, comprising:

3 receiving a major and minor channel number sequence,
4 including a major channel number, a delimiter, and a minor
5 channel number, where the delimiter separates the major
6 channel number and the minor channel number;

7 identifying a physical channel which corresponds to the
8 major and minor channel number sequence by accessing a
9 channel look up table, where the channel look up table
10 includes correspondences between major and minor channel
11 number sequences and physical channels;

12 identifying a virtual channel table which corresponds
13 to the physical channel, where the virtual channel table
14 indicates a virtual channel which corresponds to the major
15 and minor channel number sequence.

1 25. The method of claim 24, further comprising:
2 tuning to the physical channel to receive a signal
3 carried on the physical channel; and
4 decoding the virtual channel from the tuned signal.

1 26. The method of claim 25, where the virtual channel table
2 indicates one or more packet identifiers which correspond to
3 the virtual channel, and decoding the virtual channel further
4 comprises using the indicated packet identifiers.

1 27. The method of claim 24, where the major and minor
2 channel number sequence is generated by deriving a major and
3 minor channel number sequence corresponding to a sequentially
4 adjacent channel relative to a currently decoded virtual
5 channel.

1 28. The method of claim 24, where the major and minor
2 channel number sequence is generated by deriving a major and
3 minor channel number sequence corresponding to a sequentially
4 adjacent channel relative to a currently tuned physical
5 channel.

1 29. A method for selecting a channel in a digital
2 television, comprising:

3 inputting a major channel number which indicates a
4 frequency band; and

5 inputting a channel selection which, in combination
6 with the major channel number, indicates a channel associated
7 with the major channel number.

1 30. The method of claim 29, where inputting a channel
2 selection comprises selecting a channel from a list displayed
3 in a menu, where the menu lists one or more channels
4 associated with the major channel number.

1 31. The method of claim 29, where inputting a channel
2 selection comprises inputting a minor channel number.

1 32. The method of claim 31, where inputting a channel
2 selection further comprises inputting a delimiter.

1 33. The method of claim 32, where the delimiter is a dot.

1 34. A system for selecting a channel in a digital
2 television, comprising:

3 means for inputting a major channel number which
4 indicates a first physical channel carried on a broadcast
5 signal;

6 means for inputting a delimiter; and

7 means for inputting a minor channel number which
8 indicates a channel encoded in a digital signal carried on a
9 second physical channel, where the second physical channel is
10 indicated by the combination of the major channel number and
11 the minor channel number, and where the delimiter separates
12 the major channel number from the minor channel number.

1 35. The method of claim 34, where the means for inputting
2 a major channel number and the means for inputting a minor
3 channel number are a keypad.

1 36. A system for selecting a channel in a digital
2 television, comprising:
3 means for receiving a physical channel number sequence
4 which indicates a physical channel which has a corresponding
5 major channel number;
6 means for identifying the physical channel as analog or
7 digital;
8 means for causing a tuner to tune to the physical
9 channel to supply a signal carried on the physical channel to
10 a display when the physical channel is analog;
11 means for determining a major and minor channel number
12 sequence when the physical channel is digital, by
13 displaying a menu listing one or more channels
14 associated with the physical channel,
15 receiving a selection from the menu, where the
16 selection corresponds to a channel which has a
17 corresponding minor channel number, and
18 generating a major and minor channel number
19 sequence from the major channel number corresponding to
20 the physical channel and the minor channel number
21 corresponding to the selection.

1 37. A system for selecting a channel in a digital
2 television, comprising:

3 means for receiving a major and minor channel number
4 sequence, including a major channel number, a delimiter, and
5 a minor channel number, where the delimiter separates the
6 major channel number and the minor channel number;

7 means for identifying a physical channel which
8 corresponds to the major and minor channel number sequence by
9 accessing a channel look up table, where the channel look up
10 table includes correspondences between major and minor
11 channel number sequences and physical channels; and

12 means for identifying a virtual channel table which
13 corresponds to the physical channel, where the virtual
14 channel table indicates a virtual channel which corresponds
15 to the major and minor channel number sequence.

1 38. The method of claim 37, further comprising:

2 means for tuning to the physical channel to receive a
3 signal carried on the physical channel; and

4 means for decoding the virtual channel from the tuned
5 signal.

1 39. A system for selecting a channel in a digital
2 television, comprising:
3 means for inputting a major channel number which
4 indicates a frequency band; and
5 means for inputting a channel selection which, in
6 combination with the major channel number, indicates a
7 channel associated with the major channel number.